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DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF DREDGING AND SEDIMENT TECHNOLOGY
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September 12, 2016

Peter R. Blum
Chief, Planning Division
Philadelphia District - U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

RE: Delaware River Main Channel Deepening Project
Water Quality Certification: Reach E – Use of Economic Loading
File No. 0000-13-0008.1 CDT 130001 (Modification)

Dear Mr. Blum:

The New Jersey Department of Environmental Protection, Office of Dredging and Sediment Technology issued a July 27, 2016 modification to Water Quality Certification No. 0000-13-0008.1 (CDT130001) authorizing the use of economic loading (barge overflow) in the Delaware River Main Navigation Channel Deepening Project Sub-Reaches E-1, E3, and E-4. The U.S. Army Corps of Engineers – Philadelphia District (USACE) requested reconsideration of the terms and conditions of the July 27, 2106 modification based on an August 2016 hydrodynamic modeling effort conducted by the USACE Engineer Research and Development Center, and additional coordination conducted with the Delaware Department of Natural Resources and Environmental Control, Wetlands and Subaqueous Lands Section. Based on the available information, the Office of Dredging and Sediment Technology hereby modifies Water Quality Certification No. 0000-13-0008.1 (CDT130001) subject to the following conditions.

Economic Loading WQC Approval and Conditions

Economic loading operations (barge overflow conditions) are approved in Sub-Reaches E-1, E-3, and E-4 of the Delaware River Main Navigation Channel Deepening Project subject to the following conditions and limits:

(1) Economic loading operations are prohibited between June 15 and September 15, of any given year, to minimize potential impacts to the New Jersey oyster beds during periods of active spawning and spat settlement.

(2) The USACE shall implement the attached monitoring program (Attachment #1: Delaware Main Channel Deepening Upper Reach E – Economic Loading Monitoring Conditions) in association with all economic loading operations in Sub-Reaches E-1, E-3, and E-4.

(3) During an economic loading operation, if compliance monitoring at a depth of 7 meters observes a turbidity level greater than the action limit of Background +15 NTU, the economic loading operation for that specific hopper/barge load must immediately cease.

(4) Pending its contemporaneous review of the economic loading monitoring data collected in Sub-Reaches E-1, E-3, and/or E-4, the Office of Dredging and Sediment Technology may, at its sole discretion, prohibit the continued use of economic loading operations in any or all of these sub-reaches.

If you have any questions regarding this WQC modification, please contact me at (609) 633-1357, or via e-mail at mark.davis@dep.nj.gov.

Sincerely,

Mark C. Davis, Acting Supervisor
Office of Dredging and Sediment Technology

Attachment #1: Upper Reach E – Economic Loading Operations Monitoring Conditions

e-copy: Kelly Davis, NJDEP Division of Fish and Wildlife
Russell Babb, NJDEP Bureau of Shellfisheries
Steven M. Smailer, DNREC

Attachment #1

Delaware Main Channel Deepening
Upper Reach E – Economic Loading Operations
Monitoring Conditions

A - Monitoring During Economic Loading Operations – Water Column

For Sub-Reaches E-1, E-3, and E-4 (in which economic loading operations will occur), Implement a modified version of the water column monitoring program conducted during the Lower Reach E economic loading operations as follows:

- Given the distances between the Main Navigation Channel and the New Jersey oyster beds located in the vicinity of Upper Reach E, to better reflect the potential for TSS and turbidity to impact these oyster beds, the monitoring locations down-current of the dredge during economic loading operations shall be modified as follows:
    - Sub-Reach E-1: 200 meters (no change)
    - Sub-Reach E-3: apx. STA 374800 to STA 382500 – 200 meters (no change)
    - Sub-Reach E-3: apx. STA 382500 to 390200 – 500 meters
    - Sub-Reach E-4: 300 meters
- Collect three (3) TSS samples at depths of 1 meter and 7 meters synoptically with turbidity measurements.
    - Assuming the duration of hopper overflow is 30 minutes, collect these three (3) sets of samples (at each depth) at approximately 10/20/30 minutes after the start of overflow.
- The turbidity and TSS monitoring data must be reported to the Office of Dredging and Sediment Technology as soon as it is available (approximately within 2 days (turbidity) and 15 days (TSS) of the date of collection).

B - Monitoring During Economic Loading Operations – Oyster Beds

For one (1) dredging load per day during economic loading operations, and additionally whenever the Background + 15 NTU turbidity action limit specified in the Water Quality Certificate is exceeded, establish a transect co-linear with the direction of the hopper dredge overflow plume as it moves out of the Main Navigation Channel and over the adjacent New Jersey oyster beds. Collect one (1) TSS sample and a synoptic turbidity measurement at a depth of 1 meter above the river bottom at the following approximate locations along this transect:

- Location 1 – the "start point" of this transect at the intersection of the overflow plume and the edge of the Main Navigation Channel.
- Location 2 – 300 meters within the NJ oyster bed
- Location 3 – 800 meters within the NJ oyster bed
- Location 4 – 1,300 meters within the NJ oyster bed

In addition, whenever the Background + 15 NTU turbidity action limit specified in the Water Quality Certificate is exceeded during economic loading operations, collect one (1) sample for food quality and quality analysis (*sensu* Bushek et al. 2012-2015).

These samples/measurements must be collected within 2.0 hours after the initiation of hopper overflow discharges. Background (post-overflow) samples should be collected at these same transect locations no sooner than 2.5 hours after the cessation of hopper overflow discharges.

C - Oyster Bed Studies

Continue the Bushek et al. (2012-2015) studies on the Delaware Bay oyster beds for two (2) monitoring seasons (April through November of each calendar year). The first monitoring season will begin in the month of April following the initiation of dredging activities in Upper Reach E. The second monitoring season will begin in the month of April two (2) years after the start of the first monitoring season.

References: Bushek, D. et al. 2012-2015. USACE Oyster and Water Quality Stud[ies] for the Delaware River Main Channel Deepening Project.